



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/415,471	10/08/1999	MARK E. GARDINER	28724/35321	4869

32692 7590 10/10/2003

3M INNOVATIVE PROPERTIES COMPANY
PO BOX 33427
ST. PAUL, MN 55133-3427

EXAMINER

NGUYEN, SANG H

ART UNIT PAPER NUMBER

2877

DATE MAILED: 10/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/415,471

Applicant(s)

GARDINER ET AL.

Examiner

Sang H Nguyen

Art Unit

2877

A-W

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 28-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 28-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION***Drawings***

The proposed drawing correction and/or the proposed substitute sheets of drawings, filed 06/16/03 have been approved by the Examiner. Formal drawings will be required when the application is allowed.

Double Patenting

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

Claims 28-46 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 36-44, 46, and 48-56 of copending Application No. 09/613,313. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 28-31, 37-40, and 46-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wortman et al (U.S. Patent No. 5,771,328) in view of Lippmann et al (U.S. Patent No. 5,695,269).

Regarding claims 28-31, 37-40, and 46-47; Wortman et al disclosed a method of and an optical film of an illuminated lightguide, comprising:

- an optical transmissive film (10 of figure 1 and 30 of figure 3) having a first surface (12 of figure 1) and a second surface (14 of figure 1) opposing the first surface (12 of figure 1), and a first edge opposing a second edge (figures 1-2);
- * a plurality of prism grooves (16 of figure 1 and 36 of figure 3) formed on the first surface (12 of figure 1 and 34 of figure 3); and
- * each of the plurality of prism grooves (36 of figure 3) being formed to include a plurality of optical structures (figures 1-3), the plurality of optical structures for providing optical power [is considered to be defined peak (42 of figure 3), the bottom edges of sides surfaces (38,38' of figure 3), a line (figure 1), and a groove (44 of figure 3) of each having a characteristic selected one of the group an amplitude, a period and an aspect ratio (figures 3-5 and col.4 lines 10-39 and col.4 line 62 to col.5 lines 22 and see groove axis from the input edge surface (figures 3-6); and
- * a lightguide assemble system (154 of figure 8) having an input surface (figure 8) and an output surface (figure 8) of a lightguide (154 of figure 8). See figures 1-8.

Wortman et al teaches all of features in claimed invention except for each of the

prism grooves having a groove axis and each prism groove axis being substantially parallel to each other, wherein the prism groove axes are arranged to be disposed substantially perpendicular to the input surface. However, Lippmann et al teaches that it is known in the art to provide each of the prism grooves (42 of figure 3) having a groove axis of an array of V-shape grooves (col.4 lines 14-15 and 29) and it is inherent for using each prism groove axis being substantially parallel to each other (col.4 lines 29 and figures 2-3), wherein the prism groove axes are arranged to be disposed substantially perpendicular to the input surface (col.2 lines 49-65 and col.4 lines 21-31). See figures 1-3.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine a method of and an optical film of an illuminated lightguide of Wortman et al with each of the prism grooves having a groove axis and each prism groove axis being substantially parallel to each other, wherein the prism groove axes are arranged to be disposed substantially perpendicular to the input surface as taught by Lippmann et al for the purpose of efficiently directing toward to concentrate more light to the eyebox of the viewer.

Claims 32-36 and 41-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wortmann et al in view of Lippmann et al as applied to claims 28, 37, and 46 above, and further in view of Suzuki (U.S. Patent No. 6,088,074).

Regarding claims 32 and 41; figures 3-6 of Wortman et al discloses variation in the optical structures of adjacent prism grooves is one of in-phase and out-phase.

Regarding claims 33, 36, 42, and 45; Wortman et al teaches all of the features of

the claimed invention except for optical power tapers having a first value of characteristic of the optical prism groove is less than a second value of characteristic of the optical structure. However, from the same field of endeavor, Suzuki shows that it is known in the art to provide optical power tapers (figure 6) having a first value of characteristic of the optical prism groove is less than a second value of characteristic of the optical structure (abstract and figures 1-12). Thus it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify a method of and an optical film of an illuminated lightguide of Wortman et al with optical power tapers having a first value of characteristic of the optical prism groove is less than a second value of characteristic of the optical structure as shown in the device of Suzuki for the purpose of transmission liquid crystal display using in lightguide and optical film.

Regarding claims 34-35 and 43-44; Wortman et al teaches the optical structures comprises discrete optical structures formed in the prism groove and continuous structures formed along the length of the prism groove. See figures 1-2.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Sang Nguyen whose telephone number (703) 308-6426. The examiner can normally be reached on Monday through Friday from 8:30 am to 5:00 pm.

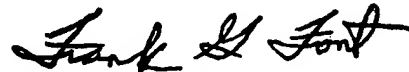
Art Unit: 2877

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Frank Font, can be reached on (703) 308-4881. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722 or 7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956. *SN*

Nguyen/ sn

September 30, 2003



Frank G. Font
Supervisory Patent Examiner
Art Unit 2877
Technology Center 2800